# (R)evolution of the Deepwater Pipe Laying Fleet
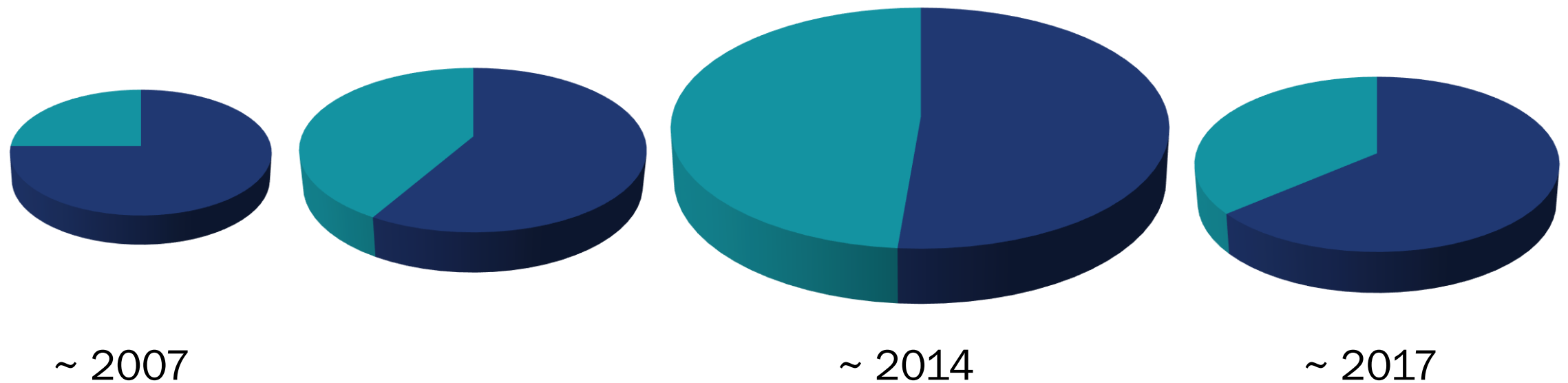
Daan Uiterwaal
Royal IHC

# Setting the scene

Deeper, harsher and more remote environments,

New field and pipeline technologies,

Market consolidation and entry barriers...

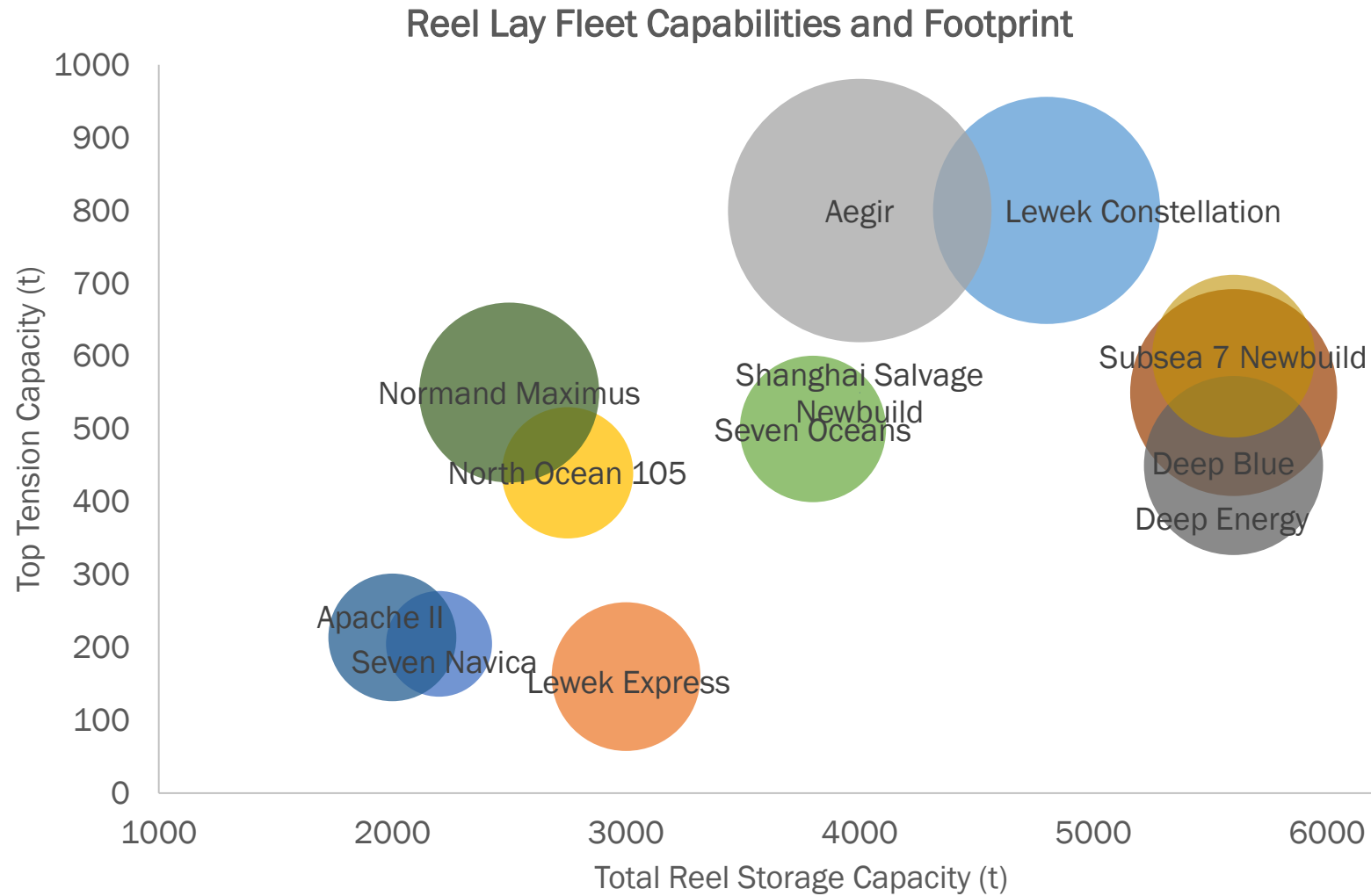## ...but we need to reduce costs!

**MCEDD**
DEEPWATER DEVELOPMENT

# 10-Year Pipelay Vessel CAPEX Development



~ 2007            ~ 2014            ~ 2017

■ Vessel
■ Mission Equipment

# Case Study Reel Lay Fleet

# Case Study Reel Lay Fleet



Reel Lay Fleet Capabilities and Footprint

# Case Study Reel Lay Fleet

# What about other functionalities...



By comparison deepwater pipelay fleet is at  ~60% utilization,

...shallow water pipelay fleet is at ~20% utilization.

# How has the industry changed?

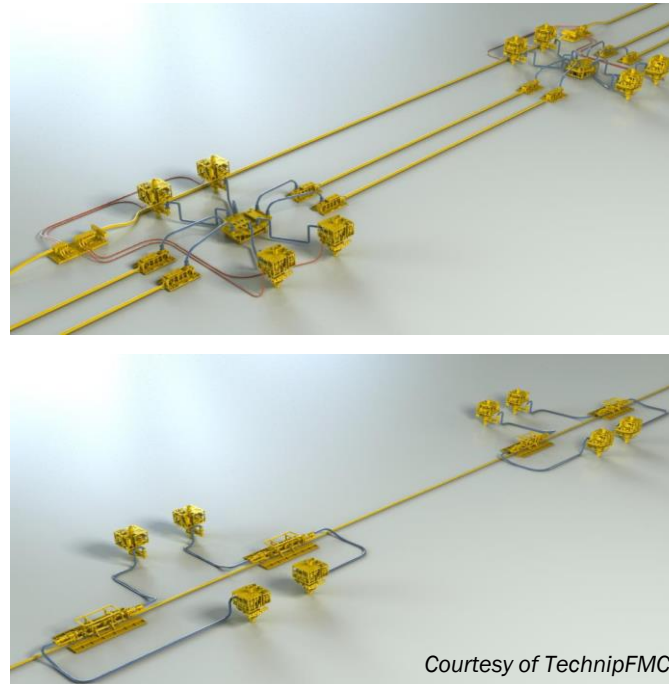| Subsea Contracting Pre-Crisis | Subsea Contracting Post-crisis |
| --- | --- |
| Growing market with emerging contractors | Market consolidation with established contractors |
| Business models based on utilization | Business models based on project integration |
| Less focus on operational efficiency | Strong focus on operational efficiency |
| Less capital discipline | High capital discipline |

# How has technology changed?

## Longer length subsea tie-backs

## Simplified subsea infrastructure

## New pipeline technology



Average Field Distance to Existing Infrastructure (km)



*Courtesy of TechnipFMC*



*Courtesy of Subsea7*

**MCEDD**
**DEEPWATER DEVELOPMENT**
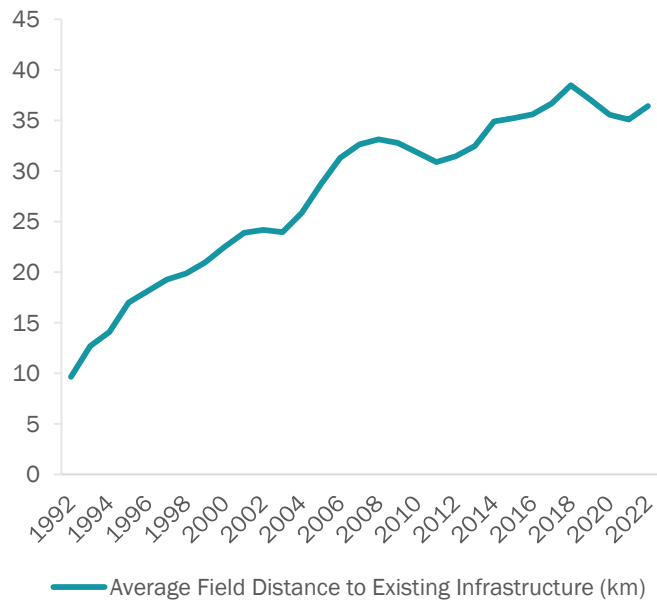
# Functional Requirements Installation Equipment

**Longer length subsea tie-backs**

**Simplified subsea infrastructure**

**New pipeline technology**

- More required storage capacity

- Larger PLET handling envelope
- Heavier PLET handling equipment
- Deck storage capacity

- Increase pipeline storage capacity
- More complex field joints
- Larger piggyback requirements
- Storage hub and aligner size
- Top tension and bollard pull

# Design Consideration Deepwater Pipelay

## Overall Philosophy

- Design focus on operational efficiency
- Primary purpose rather than multi purpose
- Compact but future-proof design

## Equipment

- Top tension requirement in line with product requirement
- Ability to support larger end- and in-line items
- Appropriate supporting lift capacity

## Vessel

- Maximize (deck) storage volume and weight
- Right-size propulsion package
- Safe and comfortable work environment

# Wrap-up